

Appl. No. 09/605,824
Amdt. dated October 18, 2004
Reply to Office action of September 7, 2004

In the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (cancelled)
2. (currently amended) The A method of claim 1 further operating a data communication apparatus comprising [(.)]:

at each of a plurality of service specific transceivers:

receiving a plurality of input signals from a given plurality of data communications devices operating with a given data communication protocol;

aggregating each of said received plurality of input signals to result in a given service specific electrical signal;

transmitting said given service specific electrical signal to a wavelength access controller;

at said wavelength access controller [(.)]:

classifying each of said plurality of service specific electrical signals;

receiving a plurality of service specific electrical signals from a plurality of service specific transceivers, at least two of said service specific transceivers operating with different data communication protocols;

converting said plurality of service specific electrical signals to a corresponding plurality of service specific optical signals;

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wavelength division multiplexing said plurality of service specific optical signals to result in a wavelength division multiplexed signal; and

transmitting said wavelength division multiplexed signal over an optical conductor to an element of an optical transport network.

3. (currently amended) The method of claim [[1]] 2 further comprising maintaining, at said wavelength access controller, a database of information relating to resources in said optical transport network.

4. (previously presented) The method of claim 3 wherein said resources comprise wavelength channels between elements in said optical transport network.

5. (previously presented) A method of operating a data communication apparatus comprising:

at each of a plurality of service specific transceivers:

receiving a plurality of input signals from a given plurality of data communications devices operating with a given data communication protocol;

aggregating each of said received plurality of input signals to result in a given service specific electrical signal;

transmitting said given service specific electrical signal to a wavelength access controller;

at said wavelength access controller:

receiving a plurality of service specific electrical signals from a plurality of service specific transceivers, at least two of said service specific transceivers operating with different data communication protocols;

converting said plurality of service specific electrical signals to a corresponding plurality of service specific optical signals;

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wavelength division multiplexing said plurality of service specific optical signals to result in a wavelength division multiplexed signal;

transmitting said wavelength division multiplexed signal over an optical conductor to an element of an optical transport network;

maintaining a database of information relating to wavelength channels between elements in said optical transport network;

receiving a connection request from one of said plurality of service specific transceivers;

determining, based on said information in said database, a path through said optical transport network corresponding to said connection request; and

instructing said element of said optical transport network to set up said determined path through said optical transport network.

6. (currently amended) The method of claim [[1]] 2 further comprising, before said converting, including header information in each of said plurality of service specific electrical signals.

7. (currently amended) Data communication apparatus, comprising:

a plurality of service specific transceivers, each transceiver of said plurality of service specific transceivers for:

receiving a plurality of input signals from a given plurality of data communications devices operating with a given data communication protocol;

aggregating each of said received plurality of input signals to result in a given service specific electrical signal;

transmitting said given service specific electrical signal to a wavelength access controller;

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a wavelength access controller for:

classifying each of said plurality of service specific electrical signals;

receiving a plurality of service specific electrical signals from said plurality of service specific transceivers, at least two of said service specific transceivers operating with different data communication protocols;

converting said plurality of service specific electrical signals to a corresponding plurality of service specific optical signals;

wavelength division multiplexing said plurality of service specific optical signals to result in a wavelength division multiplexed signal; and

transmitting said wavelength division multiplexed signal over an optical conductor to an element of an optical transport network.

8. (currently amended) Data communication apparatus, comprising:

a plurality of service specific transceivers, each transceiver of said plurality of service specific transceivers comprising:

means for receiving a plurality of input signals from a given plurality of data communications devices operating with a given data communication protocol;

means for aggregating each of said received plurality of input signals to result in a given service specific electrical signal;

means for transmitting said given service specific electrical signal to a wavelength access controller;

a wavelength access controller comprising:

means for classifying each of said plurality of service specific electrical signals;

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means for receiving a plurality of service specific electrical signals from said plurality of service specific transceivers, at least two of said service specific transceivers operating with different data communication protocols;

means for converting said plurality of service specific electrical signals to a corresponding plurality of service specific optical signals;

means for wavelength division multiplexing said plurality of service specific optical signals to result in a wavelength division multiplexed signal; and

means for transmitting said wavelength division multiplexed signal over an optical conductor to an element of an optical transport network.

9-14 (cancelled)

15. (previously presented) A data communication apparatus comprising:

a plurality of service specific transceivers, each transceiver of said plurality of service specific transceivers adapted to:

receive a plurality of input signals from a given plurality of data communications devices operating with a given data communication protocol;

aggregate each of said received plurality of input signals to result in a given service specific electrical signal;

transmit said given service specific electrical signal to a wavelength access controller;

said wavelength access controller adapted to:

receive a plurality of service specific electrical signals from a plurality of service specific transceivers, at least two of said service specific transceivers operating with different data communication protocols;

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convert said plurality of service specific electrical signals to a corresponding plurality of service specific optical signals;

wavelength division multiplex said plurality of service specific optical signals to result in a wavelength division multiplexed signal;

transmit said wavelength division multiplexed signal over an optical conductor to an element of an optical transport network;

maintain a database of information relating to wavelength channels between elements in said optical transport network;

receive a connection request from one of said plurality of service specific transceivers;

determine, based on said information in said database, a path through said optical transport network corresponding to said connection request; and

instruct said element of said optical transport network to set up said determined path through said optical transport network.